

REMARKS

Upon entry of the present amendment claims 1-24 will be pending in the application. Claims 1-9 have been amended in accordance with the requirements of U.S. patent practice. New claims 10-24 add no new matter, as these claims contain subject matter deleted from the amended claims. Applicants respectfully request entry of the preliminary amendment.

MARKED UP VERSION OF AMENDMENTS

IN THE SPECIFICATION:

After the title, please insert --This application is a National Phase Application of Patent Application PCT/EP00/05825 filed on 23. June 2000--

IN THE CLAIMS:

1.(Amended) A multicoat color and/or effect coating system[ML] for a primed or unprimed substrate, comprising, [lying above one another in the stated sequence:

- (1) a surfacer coat FL which absorbs mechanical energy, and
- (2) a color and/or effect topcoat DL or

- (1) a surfacer coat FL which absorbs mechanical energy,
- (2) a color and/or effect basecoat BL, and
- (3) a clearcoat KL or

- (1) a color and/or effect basecoat BL and
- (2) a clearcoat KL,

characterized in that] at least one coat [FL and/or DL or BL and/or KL or FL, BL and/or KL, preferably at least two coats FL, BL and/or KL or all coats FL and DL or BL and KL or FL, BL and KL of the multicoat system ML having]being produced from a coating material comprising at least one constituent (A) [preparable]made by free-radical polymerization of

- a) at least one olefinically unsaturated monomer and
- b) at least one olefinically unsaturated monomer different than the olefinically unsaturated monomer (a) and of the general formula I



in which the radicals R¹, R², R³ and R⁴ each independently of one another are hydrogen atoms or substituted or unsubstituted alkyl, cycloalkyl, alkylcycloalkyl, cycloalkylalkyl, aryl, alkylaryl, cycloalkylaryl, arylalkyl or arylcycloalkyl radicals, with the proviso that at least two of the variables

R¹, R², R³ and R⁴ are substituted or unsubstituted aryl, arylalkyl or arylcycloalkyl radicals[, especially substituted or unsubstituted aryl radicals];
in an aqueous medium.

2.(Amended) A process for producing a multicoat color and/or effect coating system ML on a [primed or an unprimed]substrate[by], comprising applying at least one coating composition to the substrate and curing the at least one coating composition to provide a cured coat, wherein

- [I] preparing a surfacer film by applying a surfacer to the substrate,
- (II) curing the surfacer film to give the surfacer coat FL,
- (III) preparing a solid-color topcoat film by applying a solid-color coat material to the surfacer coat FL, and
- (IV) curing the solid-color topcoat film DL [sic] to give the solid-color topcoat DL,

or

- (I) preparing a basecoat film by applying a basecoat material to the substrate,
- (II) drying the basecoat film,
- (III) preparing a clearcoat film by applying a clearcoat material to the basecoat film, and
- (IV) jointly curing the basecoat film and the clearcoat film to give the basecoat BL and the clearcoat KL,

or

- (I) preparing a surfacer film by applying a surfacer to the substrate,
- (II) curing the surfacer film to give the surfacer coat FL,
- (III) preparing a basecoat film by applying a basecoat material to the surfacer coat FL,
- (IV) drying the basecoat film,
- (V) preparing a clearcoat film by applying a clearcoat material to the basecoat film, and
- (VI) jointly curing the basecoat film and the clearcoat film to give the basecoat BL and the clearcoat KL,

characterized in that at least one, preferably at least two and in particular all] of the coating materials employed in each case comprise(s) the at least one coating composition comprises at least one constituent (A) [preparable] made by free-radical polymerization of

- a) at least one olefinically unsaturated monomer,
- b) at least one olefinically unsaturated monomer different than the olefinically unsaturated monomer (a) and of the general formula I



in which the radicals R^1 , R^2 , R^3 and R^4 each independently of one another are hydrogen atoms or substituted or unsubstituted alkyl, cycloalkyl, alkylcycloalkyl, cycloalkylalkyl, aryl, alkylaryl, cycloalkylaryl, arylalkyl or arylcycloalkyl radicals, with the proviso that at least two of the variables R^1 , R^2 , R^3 and R^4 are substituted or unsubstituted aryl, arylalkyl or arylcycloalkyl radicals[, especially substituted or unsubstituted aryl radicals];

in an aqueous medium.

3.(Amended) The multicoat system [ML as claimed in] of claim 1[or process as claimed in claim 2], characterized in that the constituent (A) [of the coating material] is obtain[able]ed by

- (i) subjecting at least one monomer (a) and at least one monomer (b) to free-radical polymerization in an aqueous medium to provide a reaction product, and then
- (ii) reacting the resultant reaction product with at least one further monomer (a) under free-radical conditions.

4.(Amended) The multicoat system [ML as claimed in] of claim 1[or 3 or process as claimed in claim 2 or 3], characterized in that the aryl radicals R^1 , R^2 , R^3 and/or R^4 of the [compound]monomer (b) comprise phenyl or naphthyl radicals[, especially phenyl radicals].

5.(Amended) The multicoat system[ML as claimed in any] of claim[s] 1, [3 and 4 or process as claimed in any of claims 2 to 4,] characterized in that the substituents in radicals R¹, R², R³ and/or R⁴ of the compound (b) are electron-donating or electron-withdrawing atoms or organic radicals[, especially halogen atoms, nitrile, nitro, partially or fully halogenated alkyl, cycloalkyl, alkylcycloalkyl, cycloalkylalkyl, aryl, alkylaryl, cycloalkylaryl, arylalkyl and arylcycloalkyl radicals; aryloxy, alkyloxy and cycloalkyloxy radicals; arylthio, alkylthio and cycloalkylthio radicals; hydroxyl groups and/or primary, secondary and/or tertiary amino groups].

6.(Amended) The multicoat system [ML as claimed in]of claim 1[or any of claims 3 to 5 or process as claimed in any of claims 2 to 5], wherein [characterized in that]monomers (a) comprise at least one member selected from

- a1) (meth)acrylic esters which are essentially free from acid groups;
- a2) monomers which carry per molecule at least one group selected from hydroxyl group, amino group, alkoxyethylamino group or imino group and are essentially free from acid groups;
- a3) monomers which carry per molecule at least one acid group which can be converted into the corresponding acid anion group;
- a4) vinyl esters of alpha-branched monocarboxylic acids having 5 to 18 carbon atoms in the molecule;
- a5) reaction products of acrylic acid and/or methacrylic acid with the glycidyl ester of an alpha-branched monocarboxylic acid having 5 to 18 carbon atoms per molecule;
- a6) cyclic and/or acyclic olefins;
- a7) (meth)acrylamides;
- a8) monomers containing epoxide groups;
- a9) vinylaromatic hydrocarbons;
- a10) nitriles;
- a11) vinyl compounds, especially vinyl halides and/or vinylidene dihalides, N-vinylpyrrolidone, vinyl ethers and/or vinyl esters;
- a12) allyl compounds, especially allyl ethers and allyl esters;
- a13) polysiloxane macromonomers having a number-average molecular weight Mn of from 1000 to 40 000 and having on average

from 0.5 to 2.5 ethylenically unsaturated double bonds per molecule;

[and/or]

a14) acryloxsilane-containing vinyl monomers, prepar[able]ed by reacting hydroxyl-functional silanes with epichlorohydrin and then reacting the reaction product with (meth)acrylic acid and/or with hydroxyalkyl and/or hydroxycycloalkyl esters of (meth)acrylic acid (monomers a2),

and mixtures thereof.

7.(Amended) The multicoat system [ML as claimed in]of claim 1[or any of claims 3 to 6 or process as claimed in any of claims 2 to 6], characterized in that the coating material further comprises at least one of the following constituents:

- A') at least one binder having at least one functional group (afg) which is able to undergo thermal crosslinking reactions with complementary functional groups (bfg) in the crosslinking agent (B);
- B) at least one crosslinking agent having at least two functional groups (bfg) which are able to undergo thermal crosslinking reactions with complementary functional groups (afg) in the constituent (A'),
- C) at least one constituent which is crosslinkable with actinic radiation,
- D) at least one photoinitiator,
- E) at least one thermal crosslinking initiator,
- F) at least one reactive diluent curable thermally and/or with actinic radiation,
- G) at least one coatings additive, [and/or]
- H) at least one organic solvent,

and mixtures thereof.

8.(Amended) A process of coating an article selected from [The use of the multicoat system ML as claimed in claim 1 or any of claims 3 to 7 or of the multicoat system ML produced by the process as claimed in any of claims 2 to 7 for] automotive OEM finishing, [and]automotive refinishing, industrial coating, [including]coil coating, [and]container coating, the coating of plastics, and

furniture coating, comprising applying the multicoat coating system of claim 1 to at least one surface of the article and curing it.

9.(Amended) A coated article[primed or an unprimed substrate] comprising at least one multicoat system [ML as claimed in claim 1 or any of claim 3 to 7 or at least one multicoat system ML produced by the process as claimed in any of claims 2 to 7]of claim 1.

Please add the following new claims 10- 24:

10. (New) The multicoat color and/or effect coating system of claim 1 wherein the at least one coat of the coating system is at least one coat selected from the group consisting of a surfacer coat FL which absorbs mechanical energy, a color and/or effect topcoat DL, a color and/or effect basecoat BL, a clearcoat KL, and combinations thereof.

11. (New) The multicoat color and/or effect coating system of claim 10 wherein the coating system consists of
(1) a surfacer coat FL which absorbs mechanical energy, and
(2) a color and/or effect topcoat DL,
lying above one another in the stated sequence.

12.(New) The multicoat color and/or effect coating system of claim 11 wherein both coat FL and topcoat DL are produced from a coating material comprising at least one constituent (A).

13. (New) The multicoat color and/or effect coating system of claim 10 wherein the coating system consists of
(1) a surfacer coat FL which absorbs mechanical energy,
(2) a color and/or effect basecoat BL, and
(3) a clearcoat KL,
lying above one another in the stated sequence.

14.(New) The multicoat color and/or effect coating system of claim 13 wherein at least two of coat FL, basecoat BL and clearcoat KL are produced from a coating material comprising at least one constituent (A).

15.(New) The multicoat color and/or effect coating system of claim 14 wherein at all three of coat FL, basecoat BL and clearcoat KL are produced from a coating material comprising at least one constituent (A).

16. (New) The multicoat color and/or effect coating system of claim 10 wherein the coating system consists of
(1) a color and/or effect basecoat BL and
(2) a clearcoat KL,
lying above one another in the stated sequence.

17.(New) The multicoat color and/or effect coating system of claim 16 wherein both basecoat BL and clearcoat KL are produced from a coating material comprising at least one constituent (A).

18. (New) The multicoat color and/or effect coating system of claim 1 wherein at least two of the radicals R1, R2, R3 and R4 are substituted with substituted or unsubstituted aryl radicals.

19.(New) The process of claim 2 further comprising
(I) applying a surfacer coating material to a substrate to provide a surfacer film,
(II) curing the surfacer film to give a surfacer coat FL,
(III) preparing a solid-color topcoat film by applying a solid-color coating material to the surfacer coat FL, and
(IV) curing the solid-color topcoat film to give a solid-color topcoat DL,
wherein both of the applied coating materials comprise at least one constituent (A) in aqueous medium.

20.(New) The process of claim 2 further comprising

- (I) preparing a basecoat film by applying a basecoat coating material to the substrate,
- (II) drying the basecoat film,
- (III) preparing a clearcoat film by applying a clearcoat coating material to the basecoat film, and
- (IV) jointly curing the basecoat film and the clearcoat film to give the basecoat BL and the clearcoat KL,

wherein both of the applied coating materials comprise at least one constituent (A) in aqueous medium.

21. (New) The process of claim 2 further comprising

- (I) preparing a surfacer film by applying a surfacer coating material to a substrate,
- (II) curing the surfacer film to give the surfacer coat FL,
- (III) preparing a basecoat film by applying a basecoat coating material to the surfacer coat FL,
- (IV) drying the basecoat film,
- (V) preparing a clearcoat film by applying a clearcoat coating material to the basecoat film, and
- (VI) jointly curing the basecoat film and the clearcoat film to give the basecoat BL and the clearcoat KL,

wherein at least two of the coating materials applied comprise at least one constituent (A) in aqueous medium.

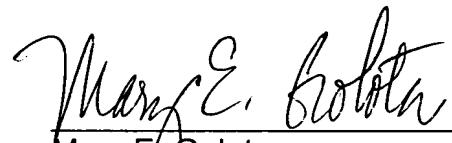
22.(New) The process of claim 21 wherein the three applied coating materials comprise at least one constituent (A) in aqueous medium.

23.(New) The multicoat system of claim 4, characterized in that the aryl radicals R¹, R², R³ and/or R⁴ of the monomer (b) comprise phenyl radicals.

24.(New)The multicoat system of claim 5, wherein the substituents in radicals R¹, R², R³ and/or R⁴ of the compound (b) are at least one or more groups selected from halogen atoms, nitrile, nitro, partially or fully halogenated alkyl, cycloalkyl,

alkylcycloalkyl, cycloalkylalkyl, aryl, alkylaryl, cycloalkylaryl, arylalkyl and arylcycloalkyl radicals; aryloxy, alkyloxy and cycloalkyloxy radicals; arylthio, alkylthio and cycloalkylthio radicals; hydroxyl groups, primary, secondary and/or tertiary amino groups, and mixtures thereof.

Respectfully Submitted,



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